WAYAMBA JOURNAL OF MANAGEMENT

DEPARTMENT OF BUSINESS MANAGEMENT
FACULTY OF BUSINESS STUDIES AND FINANCE
WAYAMBA UNIVERSITY OF SRI LANKA
KULIYAPITIYA
SRI LANKA

Department of Business Management
Faculty of Business Studies & Finance
Wayamba University of Sri Lanka
Kuliyapitiya
Sri Lanka
Tel   : 037-2283618
Fax   : 037-2283618
Web : fbsf.wyb.ac.lk

Wayamba Journal of Management

Wayamba Journal of Management is a refereed journal published by the Department of Business Management, Wayamba University of Sri Lanka biannually. The Department of Business Management and the editorial board reserve the right to determine the structure and design of the journal. Each prospective article will be reviewed by relevant experts and the Department of Business Management will commit to publish only the original contributions to the field of Business Management by respective authors from Sri Lanka and abroad.

Subscription Rates:
Local   : Rs. 300.00 + Postage
Foreign : US$ 20.00 (Inclusive Postage)

Brief Guidelines to Contributors

- **Wayamba Journal of Management welcomes original research articles. (2000-8000 words).**
- **Language of the journal is English (USA)**
- **Article must include an abstract not more than 150 words followed by five keywords, introduction, methods, results discussion, conclusion and references.**
- **Figures and tables are permitted only in black and white**
- **Manuscript of research papers which ensure the higher accuracy of language should be type written in A4 paper according to the guidelines provided**
- **Manuscripts should be sent to the Chief Editor of the Journal with a hard copy and soft copy.**
- **Having reviewed of each manuscript, decisions of the referees will be made available to the respective author(s).**
- **Once the article is accepted for publication in the journal, the author cannot republish it without prior permission of the Department of Business Management, Wayamba University of Sri Lanka.**
- **All the communication should be made through Chief Editor of the journal.**
- **All citations within the paper and list of references should be made according to the Harvard Method.**

Contact Details,
Chief Editor,
Department of Business Management,
Faculty of Business Studies and Finance,
Wayamba University of Sri Lanka.
Kuliyapitiya – Sri Lanka
Telephone (+94) 037-2283618

CONTENTS

What Factors Direct the Customers' Intention of Purchasing Branded Apparel;
An Investigation in the Western Province in Sri Lanka

W.G.T. Dimagi[1] & H.M.A. Herath[2]

[1,2]Department of Business Management

Faculty of Business Studies & Finance

Wayamba University of Sri Lanka

Kuliyapitiya.

SRI LANKA

tharushadimagi@yahoo.com[1] , herathhma@wyb.ac.lk[2]

Abstract

More or less, the brand is a key factor in different industries. The concept of brand personality as a human related component of the brand is pivotal in making the consumer purchase intention favorable towards a particular brand of a product. In the recent past, it can be seen a greater tendency of people throughout the world for more concerning the green concept in industries due to the grown consciousness for environmental protection. This tendency is gradually being extended even towards customer behavior. This study tested a model which couples brand personality and eco consciousness of consumers as independent variables and consumer purchase intention as the dependent variable. The model was tested in the branded apparel industry, since the brand name is a critical success factor in this industry. The objectives of the study were to investigate the magnitude of effect of brand personality and eco consciousness on consumers' purchase intention of branded apparels. The model was tested among randomly selected sample of 200 apparel consumers in western province by using correlation and multiple regression analysis. It was based on a comprehensive literature review and the research was designed as a survey by collecting data from the sample using a standard questionnaire The results revealed that both brand personality and eco consciousness has significant positive impacts on consumer's purchase intention. The findings imply that the consumers have more concern whether the apparel manufactures comply with eco friendliness when they make their purchasing decisions. The effect of brand personality proves that it is also a significant factor in making consumers purchasing decision on branded apparels. However, when the findings are compared with previous studies in the world, obviously, the effect of two independent variables on purchasing intention remains lower than the consumers in other western countries. It gives a signal for Sri Lankan apparel manufactures for being proactive by preparing their manufacturing processes to comply with eco friendliness since this lower level of impact may become gradually stronger in line with global consumer behavior. Moreover, they should make stronger the brand personality component by targeting

the characteristics of their market segment/s into consideration. It is proposed for the future researchers to pay more attention specially on eco consciousness of Sri Lankan consumers since the significance of the effect of the variable on consumer purchasing behavior are to be reconfirmed.

Keywords: Brand personality, Eco consciousness, Apparel industry, Sri Lanka, consumer behaviour

1. INTRODUCTION

The consumer behavior in apparel industry has its own characteristics since the brand is a critical success factor. Specially, the branded apparel consumers can be considered as a separate segment due to their higher concern on the brand name when they are making purchasing decision (Gauzente and Roy 2012). In the consumer buying behavior process, just before engaging in purchasing action, the consumer makes an intention to purchase. unless any contingent factor prevents the action, most probably, they implement the intention. According to Laroche & Zhol, (1996) purchase intention is defined as the individual's intention on buying a specific brand of product.

In the consumer segment of branded apparel, the brand name plays a critical role in influencing the consumer purchase behavior. The many previous studies have proven the influencing capacity of brand name in purchasing branded apparel by consumers. However, among the dimensions of brand name, the brand personality has rarely studied in the Sri Lankan context. Aaker (1997) defines brand personality as "a set of human characteristics associated to a brand." Hence, the functions of self-symbolization and self-expression are offered to the customers by brand personality (Keller, 1993). The brand personality among other dimensions of a brand name is thus a factor that may highly influence consumer choice and preference (Biel, 1993). it has been investigated as a dimension that generates value for the consumer and the company (D. A. Aaker, 1991, 1996). Some of the previous studies have asserted that the consumers find it natural to build relationships with brands (Fournier, 1998) and to embed them with different personality characteristics, such as 'elegant' or 'confident' (Aaker, 1997; Plummer, 2000).

Some other studies have found that the brand personality dimension is an important component for creating a brand differentiation which may directly affect the Consumer's purchase decision (Aaker, 1997). As per Wang and Yang, (2008), stronger the brand personality is, the higher the consumers' purchase intention toward the branded products.

The brand personality largely contributes to create the brand image that have already been positioned consumers' minds rather than positioning the original attributes or the characteristics of the product itself (Dick et al., 1990).

In recent past, the people at the global level had a more concern on eco friendliness with the spread of the green concept. Some of the studies in

western countries has considered how far consumers are conscious on eco system and how that concern affects their purchasing behavior. It has been conceptualized as eco- consciousness of consumers. The eco-consciousness refers to the psychological factors that determine individuals' propensity towards pro environmental behaviors (Zelezny and Schultz,2000). Consumers are becoming sensitive to the extent of avoiding the purchasing of environmentally harmful products. Eco-consciousness is a multidimensional construct known to be influenced a person's knowledge, attitude, behavior, intentions and actions (Singh and Gupta, 2013; Dunlap et al., 2002; van Liere and Dunlap 1981).

As Lee et al. 2012 studied, the consumers' perception of eco-friendly apparel brands provides positive influences to their purchasing intention. Researches indicate that the involvement in eco-conscious apparel acquisition increases among consumers who understand how branded apparel products affect the environment (Hustvedt and Dickson,2009; Stephens, 1985). Also consumers' purchase intention directly influences the green branded apparel products, since such products are eco-friendly, safe, and good for their health (Lai and Cheng 2016).

Some studies have shown that the consumers who are more likely to practice eco-friendly behavior tend to purchase more green branded apparel products (Diamantopoulos et al., 2003; Zimmer et al., 1994).

1.1 The issue in the Sri Lankan context

The Sri Lankan consumers have the freedom to choose the local brands of apparel and the market remains very competitive. The common Sri Lankan consumers are price sensitive and therefore, the price will influence their buying decisions Jayasingh and Eze 2012). However, the behavior of the branded apparel consumer segment may be different from the common consumers since they are mostly coming from the up market and likely to be brand and quality conscious. Nevertheless, in this segment, the studies related to consumer purchasing behavior is lacking. No studies have been conducted specially for investigating eco consciousness of consumers in this segment in Sri Lankan apparel industry. Since it is the branded apparel consumer segment, the brand may play a pivotal role in consumer purchasing decision. Though there are few studies on the brand, brand loyalty and brand image, the brand personality has very rarely been studied. Therefore, a research model with eco consciousness and brand loyalty as predictor variables may be a parsimonious but strong model in this segment.

1.2 The research Model

Growth of the number of branded apparels clearly widened the consumer choices in terms of purchasing because consumers have a variety of brand positions in their mind when they go to buy clothes and the consumer will ultimately decide which apparel brand should purchase. Therefore, how the brands positioned

in the mind of the consumer has been a decisive factor to attract more customers. As a result, it is interesting to identify which factors are influencing Sri Lankan consumer choice to buy branded apparel.

Based on the premise discussed in the literature on brand personality and eco-consciousness and the features of the segment in Sri Lankan context, the study conceptualized the research model as shown in Figure 1.
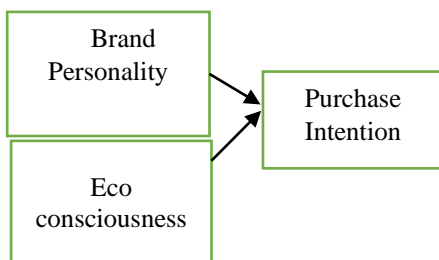

Figure 1. Research Model

Based on the conceptual model, the following questions were answered by testing the model in Sri Lankan context.

1.3 Research Questions

- What is the level purchase intention of branded apparels among consumers in the Western Province?
- What is the relationship between brand personality and purchase intention?
- What is the relationship between eco consciousness and purchase intention?
- To what extent does each factor (brand personality and eco consciousness) affects the purchase intention?

For answering the specified research questions by testing the proposed research model, four specific objectives were formulated as given below.

1.4 Research Objectives
- To identify the level of purchase intention of branded apparels among consumers in the Western Province.
- To investigate the relationship between brand personality and purchase intention of consumers in Western Province
- To investigate the relationship between eco consciousness and purchase intention of consumers in Western Province
- To explain the impact of brand personality & eco-consciousness on consumers' purchase intention

1.5 Hypotheses

For calculating the statistical values for the two direct paths of the theoretical framework to find the model fit to the real context, the study formulated two hypotheses to prove the relationships and the impacts of the predictor variables and the criterion variable.

H1: There is a positive relationship between Brand Personality and Purchase Intention and brand personality significantly affect the purchase intention.

H2: There is a positive relationship between eco consciousness and purchase intention and eco consciousness significantly affect the purchase intention.

2. METHODS

2.1. Research Design

The current research aims to examine the impact of brand personality & eco-consciousness towards the consumers' purchase intention. Accordingly, the positivistic method is suited while deductive reasoning was the approach. The time horizon of the study was cross sectional and study setting was non-contrive and unit of analysis was individual customers.

2.2 Population and Sample

The target population of this present work is the consumers in Western Province who purchase the branded apparels. The survey sampling frame couldn't be defined since there were no source of exact number of consumers. The sample size consisted of 200 respondents whom were selected as per the Morgan table.

2.3. Measures, Data Collection and Analysis

Survey questionnaire was used to collect data for the purpose of this study. In order to collect primary data, a self-administered questionnaire was used, and it requires respondents to answer. the questions in a decided order (de Vaus 2002). The questionnaire was posed to the sample members by using Google Forms. The structured measurements were used to operationalize the variables and they were adapted for the current study.

Thus, having collected the completed questionnaires from the online survey, the data were analyzed by using the correlation and multiple regression analysis for testing the hypotheses.

The descriptive analysis was performed to identify the univariate behavior of variables and to analyze the sample characteristics.

2.4 Testing Multivariate Assumptions

Before performing the mainstream data analysis for hypotheses testing, multivariate assumptions were tested to check the suitability of variables for multiple regression analysis.

2.5 Normality

When testing for normality, it was mainly checked by using the Normal Q-Q Plots. The graphical representation of the plots indicates that the data appears to be normally distributed as it follows the diagonal line closely and does not appear to have a non-linear pattern.

As the figure 2. indicates, the independent variable brand personality has no deviation from the normal distribution and suitable for using in the multiple regression model.
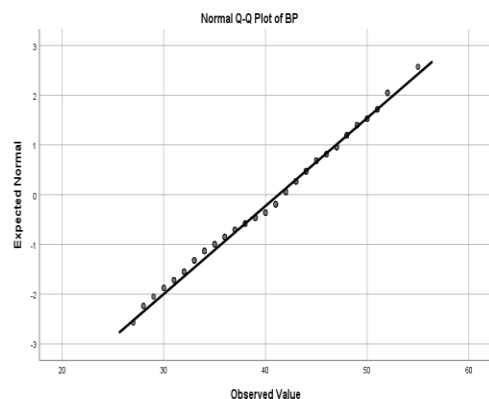

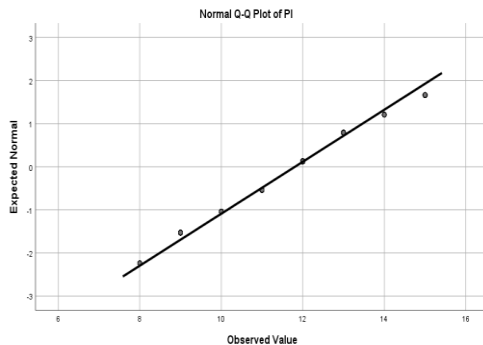**Figure 2. Q Q Plots for Brand Personality**

Figure 3. Normal distribution of Purchase Intention

Also, the figures 3 and 4. show the variables purchase intention and eco consciousness are respectively normally distributed proving their suitability for using in the regression model.
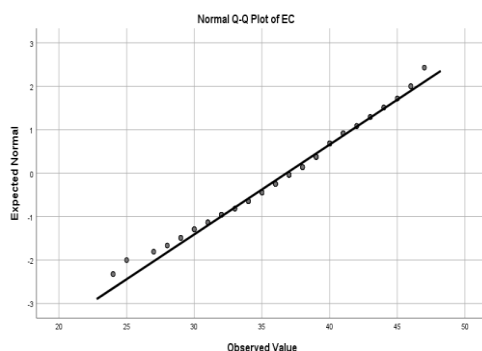
Figure 4. **Normal distribution of Eco Consciousness**

2.6 Linearity

Linearity of variables was assessed by the examining the scatter plots. The graphical representation of the scatter plots for all variables indicates a good linear relationship, which allows to conduct a linear regression analysis. (figure 5.)
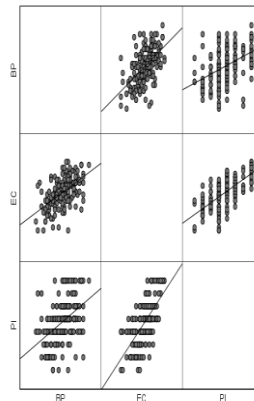
Figure 5. Linearity of the variables

2.7 Auto correlation

The auto correlations among variables were tested by estimating the Durbin-Watson value. The value is according to the table 1. is 1.864 and approximates 2. Therefore, it can be concluded that there is no auto correlation.

2.8 Multicollinearity

To test the assumption of multicollinearity, VIF and tolerance indices were used, the values are given in the table 2.

Table 2. Multicollinearity statistics, VIF and Tolerance values

	Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2.876	.744		3.867	.000		
	BP	.026	.019	.088	1.378	.170	.683	1.464
	EC	.214	.022	.624	9.766	.000	.683	1.464
a. Dependent Variable: PI								

As per the collinearity statistics, the VIF value of 1.464, means that it lays between 1 to 10, it can be concluded that there are no multicollinearity symptoms.

3. RESULTS

3.1 Descriptive statistics

For understanding the beaviour patterns of single variables Descriptive statistics were estimated. Accordingly, minimum and maximum values, mean and standard deviation were observed. The results show in the table 3. Belo

Table 3. Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
BP	200	27.00	55.00	41.2200	5.70652
EC	200	24.00	47.00	36.8173	4.84316
PI	200	8.00	15.00	11.8000	1.64729
Valid N (listwise)	200				

In the table 3, it shows that the highest mean value reports by brand personality while next value represents by eco consciousness. The lowest mean value remains with purchase intention. The mean value of brand personality & eco consciousness is higher than the mean value of purchase intention.

3.2 Correlation Analysis

The Pearson correlation coefficients among variables were estimated to investigate the bivariate relationships among independent and dependent variables. (Table 4) One of the objectives of this study is to evaluate the relationship between brand personality and purchase intention. This table shows Pearson's value of 0.439 was positive. The value represents a moderately strong correlation.

Table 4. Pearson Correlation

Correlations		PI	BP	EC
PI	Pearson Correlation	1	.439**	.674**
	Sig. (2-tailed)		.000	.000
	N	200	200	200
BP	Pearson Correlation	.439**	1	.563**
	Sig. (2-tailed)	.000		.000
	N	200	200	200
EC	Pearson Correlation	.674**	.563**	1
	Sig. (2-tailed)	.000	.000	
	N	200	200	200
**. Correlation is significant at the 0.01 level (2-tailed).				

When the brand personality increases, the purchase intention also increases. As well as it shows significant value of 0.000 and can be concluded that there is a statistically significant correlation between brand personality & purchase intention.

The relationship between eco consciousness and purchase intention shows Pearson's value of 0.674 which was positive and there is a moderately strong correlation. when the eco consciousness increases, the purchase intention also increases. The significant value of 0.000 indicates that there is a statistically significant correlation between eco consciousness & purchase intention. It means, increases or decreases in eco consciousness do significantly relate to increases or decreases in purchase intention.

3.3 Regression analysis

As per the results of regression analysis, the regression model estimated shows a good fit with the

assumed model. It also indicates that the research mode tested exists in the real context of branded apparel industry.

Table 5. The Regression Model

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	247.276	2	123.638	82.314	.000[b]
	Residual	291.394	194	1.502		
	Total	538.670	196			

a. Dependent Variable: PI

b. Predictors: (Constant), EC, BP

As the per the F statistic of the table 5. and P value being less than .001, it proves a good model fit. Moreover, it indicates that brand personality and eco consciousness are good predictors of the dependent variable purchase intention. The β values for both independent variables are also significant at the significant level .001 and therefore both brand personality and eco consciousness significantly affect the consumers' purchase intention on branded apparels.

Accordingly, as per the results of correlation and regression analysis two hypotheses formulated in this study can be accepted.

4. CONCLUSION AND RECOMMENDATIONS

This study aims were to investigate the brand personality & eco consciousness and their relationships with and effect on purchase intention. The correlation analysis, and the regression analysis confirmed the significance of brand personality, eco consciousness in the consumers 'purchase intention of branded apparels

Empirical results confirmed the positive and statistically significant effect of brand personality on purchase intention. Therefore, it is possible, in this study, to draw the conclusion that brand personality has an effect on consumers' purchase intention. Eco consciousness is also positively correlating with consumers' purchase intention. Therefore, it is possible to draw the conclusion that eco consciousness has an effect on consumers' purchase intention.

The results of this study related to brand personality and purchase intention is consistent with previous studies, (eg. Son et al. 2013; Vikkraman and Sumathi 2012). Hence, it revealed that individual consumers desire to see their very own personal characteristics and identity in selecting apparel products. They wish to differentiate themselves from others in the society with a unique fashion sense. Also the results imply that branded apparel manufacturers have to make a major concern on the brand personality dimension of their brand. That dimension will be much helpful for strongly positioning a particular brand in the mind of branded apparel consumers. From the side of consumers, it seems that they are becoming more eco conscious and tis mind set will be a stronger predictor of branded apparel purchase intention. However, when the results are compared with similar studies of western, it can be observed that the impact of eco consciousness is not so stronger in the Sri Lankan context. It may imply for the Sri Lankan

manufactures to re think since it may become stronger in the future with the world increasing concern on the green concept.

Also the present study profiling consumer segments based on their preference for branded apparels non-branded apparels. Thus, it gives important implications for apparel manufacturers. Based the findings, consumers who prefer to buy ecofriendly branded apparels tend to have a unique lifestyle and shopping orientation. Interestingly, they are not necessarily from the highest income group, but they are big spenders on clothing and are willing to pay higher prices for brand, quality and image. However, it revealed that their attitude towards the environment lead them to prefer ecofriendly branded apparels.

The results of the study on influencing factors to the purchase intention would have been a great advantage for the apparel manufacturers and retailers. In view of the competitive landscape of the textile and apparel industry, it is vital for the manufacturers, retailers, marketers and other relevant parties to be more diligent in attracting and stay relevant to the needs and wants of the potential customers. Understanding what arouse customers' purchase intention in apparel market would be useful for them to accurately segment their target market, develop effective promotion strategies, and create loyalty among the customers.

Day by day the apparel industry is expanding and becoming competitive. Such studies on factors affecting purchase intention among consumers in the Sri Lankan context will encourage Sri Lankan manufacturers

to reconsider consumers' intention when they compete in the open market

While the results of the study are beneficial for the existing manufacturers and merchants in apparel industry in particular similarly it will be for the new comers who attempted to enter into the apparel market.

For the future researchers in the field, it can be suggested to conduct more studies specially focusing the eco consciousness of consumers and its trending growth. This variable applied to not only to the branded apparel industry but also other manufacturing industries. It is better to keep in touch with the changes of eco friendliness mind set of Sri Lankan customers despite the nature of the industry.

Generalizability of the results of the study to entire industry in Sri Lanka can be considered as one of the main limitations of the study, as it was carried out in a particular province and results may not be considered as the perception of the country as a whole.

REFERENCES

Aditi Mishal, R. D. (2017). Dynamics of environmental consciousness and green purchase behaviour". *International Journal of Climate Change Strategies & Management, 9*.

Aggrawal, A. (2010). Impact of Consumer Perception on Buying Behavior in Apparel Retail Sector, with special reference to Selected Indian Cities.

Audrey Azoulay, J.N. K. (2003). Do brand personalityscalesreally

measurebrand personality?. *Journal of Brand Management*.

Cham T.H., N. C. (n.d.). Factors Influencing Clothing Interest and Purchase Intention: A Study of Generation Y Consumers in Malaysia.

Chi, T. (2015). Factors influencing purchase intention towards environmentally friendly apparel: An empirical study of US consumers. *International Journal of Fashion Design Technology and Education*. Retrieved from https://www.researchgate.net/publication/269337096

Connell, K. Y. (2011). Exploring consumers' perceptions of eco-conscious apparel acquisition behaviors. *Social Responsibility Journal, 7*.

Duong, N. (2019). Brand personality and its impacts on consumers' purchase intentions. 81.

Erdil, T. S. (2015). Effects of Customer Brand Perceptions on Store Image and Purchase Intention: An Application in Apparel Clothing. *Science Direct*, 196-205.

Farhat, R., & Khan, D. M. (2011). "Importance of Brand Personality To Customer Loyalty: A Conceptual Study ". *11*.

Gam, H. J. (2011). "Are fashion-conscious consumers more likely to adopt eco-friendly clothing?". *fashion marrketing & management journal*.

Gil, A. G., & Hellgren, D. (n.d.). "Brand Personality: Impact on Brand Trust and Consumer Preferences".

Han Gia Vuong, M. T. (2018). "Factors Influencing Millennials' Purchase Intention towards Fast Fashion Products: A Case Study in Vietnam". *International Journal of Social Science and Humanity, 8*.

Kandiraju, G. (2014). investigating the influence of perceived characteristics of innovation on the relationship between knowledge, attitudes and purchase intention towards eco-conscious apparel.

Keller, K. l., & Richey, K. (2006). The importance of corporate brand personality traits to a successful 21st century business. *Journal of Brand Management, 14*.

Kim, A. K.J.K. (2008). Indian consumers' purchase intention toward a United States versus local brand. *Journal of Business Research*.

Lim, D. A. (2008). The Influence of Brand Associations on Brand Preference and Purchase Intention. *Journal of International Consumer Marketing*.

Minh Ly, P. T., & Loc, T. L. (2017). "The Relationship between Brand Experience, Brand Personality & Customer Loyalty". *International Journal of Business and Economics, 16*, 109-126.

Nam, C., Dong, H., & Lee, A. Y. (2017). Factors influencing consumers' purchase intention of green sportswear.

Nejad, H. V. (2016). "Brand personality toward customer purchase intention: the intermediate role of electronic word-of-mouth and brand equity". *Asian Academy of Management Journal, 21*.

Nikhashemi, S., & Valaei , N. (2017). Generation Y consumers' buying behaviour in fashion apparel industry. *Journal of Fashion Marketing and Management, 21*(4).

Ondogan, D. (2016). The Importance of Brand in Ready Made Garment Consumption. *International Journal of Business Management and Economic Research, 7*, 612-618.

Saeed, R., Lodhi, N. R., Khan, K. A., & NKhurshid, N. (2013). "Measuring Impact of Influencing Purchase Intention Towards Green Products: Sahiwal Clothing Industry Perspective". *World Applied Sciences Journal*.

Wang, C.L. (2001). Consumer decision-making styles on domestic and imported brand clothing.

Xia Tong, J. S. (2017). Brand personality and its impact on brand trust and brand commitment: an empirical study of luxury fashion brands". *International Journal of Fashion Design, Technology & Education*.

Human Behavior on the Development of Group Technology: A Study in Sri Lankan Apparel Industry

A.K.D.N. Dilshani[1] & U.L. Herat[2]
Department of Business Management
Faculty of Business Studies & Finance
Wayamba University of Sri Lanka
Kuliyapitiya
SRI LANKA
dilshani@wyb.ac.lk[1], umangi@wyb.ac.lk[2]

Abstract

Greater attention was paid to the increasing need of organizations for alternate process solutions to integrate the efficiency of product flow layouts with the flexibility of functional layouts. The solution, at least for some organizations, is group technology (GT). Much GT studies focused on the technical concerns involved in transforming functionally segregated operations into integrated multifunctional cells. However, it is proposed that a complementary connection between technical and human behaviour is required to ensure the optimization of GT implementations. In that regard, the present research was primarily conducted to study the effect of human behaviour on the implementation of the GT, especially referring to the apparel industry in Sri Lanka, where the GT was introduced as a key strategy for process improvement initiatives to reduce the burning issue of longer lead time. In addition, the study aims to explore the key factors for implementing the GT and the perceived benefits that can be obtained from the implementation of GT. A selection of 70 executives from the sewing departments of garment manufacturing organizations where the GT concept was applied, was chosen on the basis of a judgmental sampling technique. The questionnaire was the primary research instrument. Findings have shown that high inventory storage, high lead time, quality problems and, as well as dissatisfaction among staff, are the serious manufacturing issues that contributed to the implementation of GT. Furthermore, the potential advantages of using GT include improved productivity of employees, skills of workers, flexibility, on time delivery, and product quality, while decreasing lead time, inventory level, set up time, throughput time, and production and quality control cost. Employee resistance to change has been shown to have the greatest detrimental effect on the implementation of the GT.

Keywords: Group Technology (GT), Human Behaviour, Apparel Industry, Sri Lanka

1. INTRODUCTION

Many companies, large or small, face serious challenges from a dynamic and complex global economy, challenges that have put in question the effectiveness of traditional management methods. Some of these

challenges include growing demand from customers for better quality products and services at lower prices, competitive pressures, keeping up with technological developments, and supplier pressures. To overcome these challenges and become more efficient, organizations will have to create alternatives to hierarchies, change the way decisions are made, change the way of doing business, redefine jobs, and make the necessary structural changes (Lussier & Achua, 2003). One popular approach to structural changes to meet these challenges has been the implementation of Group Technology (GT) in the organizations.

GT involves the redesign of a functionally organized small batch manufacturing facility (i.e., a job shop) into a cellular layout in which dissimilar but sequentially related machines are relocated in physical proximity to one another and dedicated to the manufacture of a specific family of component parts (Pullen, 1976; Wemmerlov & Hyer 1989). GT offers an opportunity to combine the efficiency of product flow layouts with the flexibility of functional layouts (Anbumalar & Sekar, 2015). In this type of layout, groups dissimilar machines into work cells to work on products that have similar processing requirements. GT reduces the part movements since the products are processed in a single cell.

It also reduces the scheduling complexities. This layout is designed to obtain much of the efficiency of a product layout without sacrificing flexibility. Using many cells, with facility with such a layout can produce a variety of items. GT can be much more flexible than product layouts and much more efficient than process layouts. Variety of items within a certain range can be efficiently produced using a cellular layout (Perera, 2009).

Since the late-1970s, the Sri Lankan apparel industry underwent rapid growth and continues to be the largest manufacturing market. The role played by the apparel industry in Sri Lanka is significant in many respects. It is now becoming one of the strongest manufacturing sub-sectors, the largest export contribution, foreign exchange earnings, the Gross Domestic Product (GDP) and the development of job opportunities occupy a prominent role in this regard.

Considering the output of Sri Lanka's industrial sector, the most important of these is apparel production. Similarly, the apparel industry is currently the leading export-oriented industry in Sri Lanka and as well as it has provided vast quantities of direct and indirect jobs to nearly 600,000 workers. But the industry is operated in such an environment that they are the victim of low labour productivity, high WIP, low labor utilization and higher manufacturing cost, excessive manufacturing lead times. The most important task for the industry is to reduce the lead time of garment manufacturing (Kumar, Anbumalar, Bala Ganesh and Mayandy, 2014).

Garment manufacturing in comparison to most other manufacturing industries use light weight machineries which are easily movable during a changeover. Therefore, the present practice is to

rearrange the garment manufacturing line when a garment style needs to be changed. The same machine arrangement may prevail for several years for large order quantities or it may last only few hours as the order quantities can be as small. As the fashion is changing rapidly, today's trend of the garment industry is to move towards small order quantities. Hence the garment manufacturing lines should react fast for rapid changeover (Lanarolle and Ratnayake, 2014). GT is considered and adopted by most garment manufacturing organizations as core strategy in process improvement initiatives.

While there is no doubt about the increasing popularity of GT, companies at large fall short of achieving benefits that were perceived as being important to GT adoption (Fraser et al). However according to Udo & Ehie (1996) only half of those companies adopting GT ever attain successful implementation. Study also revealed that a considerable gap exists between the organizations' expectations and their actual achievements of GT benefits.

It is argued that a contributing reason why the full benefits of GT have not been achieved is due to the fact that the research literature on cellular manufacturing over the last 15 years has to an overwhelming degree focused on the development of procedures to solve the cell formation problem (machine order/layout, family part grouping, work flow sequence) (Wemmerlov & Johnson, 2000). To a large degree this is also true in practice. It is now accepted that a number of fundamental social changes do occur when companies convert from functional manufacturing layouts to manufacturing cells. These social changes along with the required technical modifications will require careful attention by practitioners because of their potential impact on employee attitudes, motivation, and retention, and therefore the overall success of GT implementation (Fraser et al).

Most research on GT has focused on the technical issues involved in converting functionally segregated operations into integrated multifunctional cells. Examples of these technical issues include classification methods, physical arrangements, methods for reducing set-up time, and design of work flow sequence. By comparison, research on the human or social side of GT has been notably lacking (Huber & Brown, 1991). It is now clear that not only the technical factors but also human factors play significant role in the success of GT.

As the garment industry is more people involved process it is critical to obtain the positive commitment of people in the implementation of any technique (Lanarolle and Ratnayake, 2014). Accordingly, this study was primarily conducted to study the impact of human behavior on the implementation of GT specially referring to the apparel industry in Sri Lanka. Moreover, study tries to investigate the main reasons for implementing GT and the perceived benefits that can be gained from implementing GT.

1.1 Research Problem

GT is a well-known strategy in removing many of the inefficiencies associated with functional batch-type manufacturing environments. It is widely accepted that the successful implementation of GT will bring much benefits such as reducing delivery lead times, set up time, lot size, work-in-process inventory and defects, while improving product quality, worker productivity, & process improvements. Within these enablers there is no doubt that organizations are willing to apply GT in their organizations. As discussed in the introduction. However according to Udo & Ehie (1996) only half of those companies adopting GT ever attain successful implementation.

The investigation is then open to explore why organizations couldn't get the full benefits of GT. To explore the reasons many literature has predominantly focused on technical issues (machine order/layout, family part grouping, work flow sequence) using mathematical or simulation methodologies (Singh, 1993; Kazerooni, 1997; Shambu & Suresh, 2000; Albadawi et al, 2005).it is also confirmed by the early study conducted by Fazakerley (1976) stating that, companies introducing cellular manufacturing have concentrated on such technical issues as classification methods, the design of the workflow sequence and the physical arrangement of machinery for reducing set-up times.

However, Wemmerlov & Johnson (1997) found that 'people' issues outnumbered 'technical' issues. It is clear from the literature that GT should not be viewed merely as a technical, engineering-dominated problem but as a change process where the people elements play a very important role in the success of GT (Wemmerlov & Johnson, 1997; Park & Han, 2002; Chakravorty & Hales, 2004). But, by comparison, research on the human or social side of GT has been notably lacking (Huber & Brown, 1991).

It is now accepted that not only the technical factor but also human factors have significant impact in the success of cellular layout. But the impact of human or social side on the success of the GT is a missing field. So this study tries to reduce that gap.

1.2 Literature Review

Over the past 15 years there have been various attempts by researchers to develop models for the implementation of GT. Some of these models have built on previous work while others have focused on individual areas of the implementation process. What is missing from the perspective of practitioners is a comprehensive step-by-step guide of the various phases to implement GT. The earlier work had a strong focus on the design phase of manufacturing cells with the major consideration being given to the technical factors (machine order/layout, family part grouping, and work flow sequence). The more recent research has identified the importance of the human factors in GT along with strategic and operational considerations, without providing a comprehensive model

combining all the various facets (Fraser et al).

In the initial study of GT, Wemmerlov & Johnson (1997) revealed that manufacturing cells can provide substantial benefits; however, implementing GT is not merely an issue of rearranging the factory layout, but more importantly an issue that involves and effects the organizational and human aspects of the manufacturing firm. Surrounding cell conversions, the authors found that the number of comments about 'soft' (people) issues exceeded the number about 'hard' (technical) ones. As is the case with other studies, the authors found that successful change is more dependent on organizational than technological factors. They also found that 'planning cannot be emphasized enough (and) small, incremental successes should be the basis for larger, integrated cell systems'.

The early empirical work to develop social system factors that supported GT success were conducted by Huber & Hyer (1985); Huber & Brown (1991). Huber & Brown (1991) used socio-technical systems (STS) theories and human resource management practices to provide implementation guidelines for successful implementation of GT. Based on STS theories; they suggest that a complementary match between technical and social systems is needed to ensure optimization of GT implementations.

Based on a review of both existing cell design approaches and socio-technical systems (STS) theory literature, Hyer et al (1999) propose a model of cell system design that considers both technical and social dimensions. In concluding, the authors revealed that there are several key factors significantly affect the successfully introduction of manufacturing cells. These include 'selling' the need for change, general decisions about structure and operation, analysis of social and technical subsystems, cell assignments, detailed design, and implementation. They go to add that in contrast to existing GT literature, these elements paint a far more comprehensive picture of the change process and suggest areas where future research may be targeted.

In an attempt to determine performance obstacles in GT implementation, Park & Han (2002) found that four factors played an important role: information requirements, training and education of workers, supervision, and teamwork skill. These findings were recently supported by another study of human related issues in GT. In a survey of both operators and managers, Bidanda et al (2005) found that the most important human factors were communication, teamwork, and training.

According to Fraser et al, to obtain the full benefits of GT, successful implementation is a critical factor. Evidence indicates that firms converting to GT often struggle with implementation and achieving results that are less than anticipated. A comprehensive review of implementation literature was undertaken and a multi-phase model developed and tested through a case study. The framework recognizes the

importance of both technical and human aspects of GT and provides better understanding of the various phases in the implementation process, including the many decisions which need to be considered for each step.

In their study Wemmerlov & Johnson (1997), found that the most common problem faced by firms in connection with establishment of manufacturing cells were related to cell design, the implementation process, and human issues. The importance of user involvement in effective change is also a frequent theme in the implementation literature. Restructuring the factory to adopt GT should not be viewed merely as a technical, engineering-dominated problem but as a change process where the people element dominates.

Park & Han (2002), commented that GT implementation is a rich and wide research area where interdisciplinary participation seems fruitful'. In a study of performance obstacles in GT implementation, they found that the major factors were: training and education, information, teamwork skill, supervision, and scheduling.

2. RESEARCH METHODOLOGY

The study adopted descriptive survey design which involved quantitative exploratory methods. As the data for this study will be collected at a single point in time, the study was cross-sectional in time horizon.

The unit of analysis is the individual level. The target population of the study is large scale garment manufacturing organizations in Sri Lanka. It was further narrowed geographically to the North Western province. The sample consisted with seventy garment factories where GT concept has already been implemented. Judgmental sampling procedure was being applied to select 70 garment manufacturing organizations in North Western province in Sri Lanka where the GT concept was applied. Then, 70 executives from the sewing department, were selected as value addition for a garment mainly happened in the sewing department. A total of 70 questionnaires together with the covering letter explaining the purpose of the study and the confidential letter were sent through email and personally to the respondents and 60 questionnaires were returned to the researchers with 86% of response rate.

The structured questionnaire was developed based on the existing literature. The questionnaire was arranged into two sections. The first section was designed to collect data relating to respondents demographic. The second section consists with questions relating to motivational force for applying the GT, benefits of GT, and confronted human relation obstacles in implementing the GT concept in the organization. Collected and compiled data were analyzed using Statistical Package for the Social Science (SPSS). A reliability and validity analyses were performed at the beginning of the analysis. Statistical measures such as mean, standard deviation and percentages were used. Multiple regression analysis was used to measure the

impact of human barriers/ obstacles on the dependent variable of implementation of GT.

3. RESULTS AND DISCUSSION

The demographic characteristics of the respondents are shown in table 1. Accordingly, 28 respondents were female (47%), and 32 respondents were male (53%). 27% of the participants' ages were between 20-29, 35% of participants' ages were between 30-39, and 38% were over 40 years old. 23% of participants were bachelors. In terms of working experience, 42% of the respondents have less than 5 years working experience, 52% have 5-10 years, and 6% have more than 10 years working experience.

Table 1. Demographic Characteristics of Respondents

Demographics		N	%
Gender	Female	28	47
	Male	32	53
Age	20-29	16	27
	30-39	21	35
	Over 40	23	38
Marital status	Not married	14	23
	Married	46	77
Working experience	Less than 5 years	25	42
	Between 5 and 10 years	31	52
	Over 10 years	9	6

Preliminary Analyses

It is essential to calculate the validity and reliability of measures used in the study before analyzing the data. The Cronbach Alpha value is considered as a measure of scale reliability. Cronbach's alpha value of 0.869 indicating excellent level of reliability according to Gliem & Gliem (2003). Univariate and bivariate normality was tested by using KMO test and Bartlett's Test of Sphericity. Accordingly, KMO measure for all the constructs is above 0.6 indicating the sample is adequate. Bartlett's Test of Sphericity is significant (>0.05) for all construct which indicating sufficient correlation exists among items to proceed.

Reasons for Applying GT

In order to understand the main reasons for introducing GT, the respondents were asked to specify the different production problems faced by their organizations. According to the respondents point of view high inventory storage and high lead time is the severe production problem which caused to implement the GT in garment factories. It is also important to point out that quality problems and as well as worker dissatisfaction is also play as a motivational force in applying GT system.
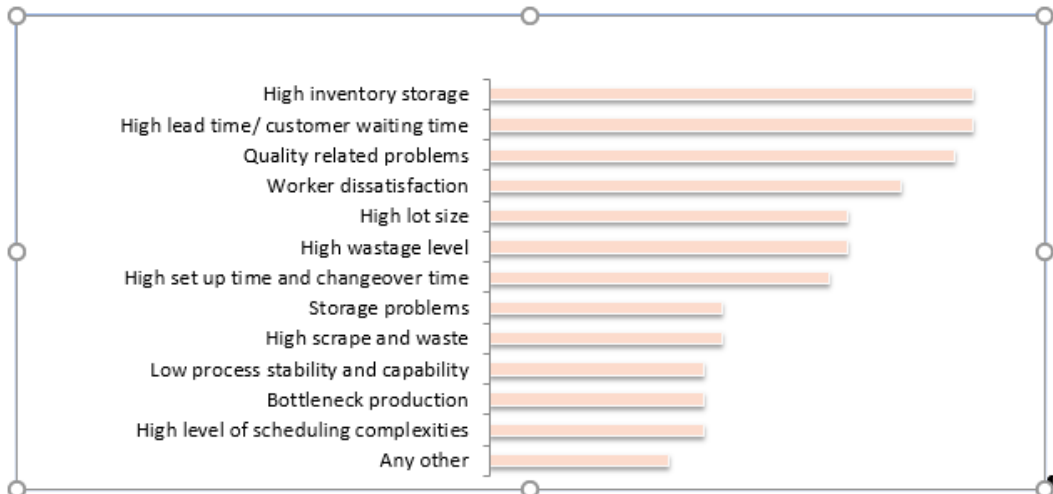
Figure 1. Reasons for Applying GT

Perceived Benefits of GT

In the survey instrument, the respondents were asked to rate their perception on the benefits of implementing GT. The reasons and their relative importance were considered. Multiple benefits have been identified as critical because the average respondent view is not less than 4. According to analysis the main benefits gained from implementing the GT are increased worker productivity, worker skills and flexibility has increased, product quality has increased, on time delivery, decreased lead time, reduced inventory level, reduced set up time and throughput time, reduction of production and quality control cost.

Table 2. Benefits Gained from GT

Benefits of GT	Mean	SD	Strongly Agree	Agree	No Idea	Disagree	Strongly Disagree
Worker productivity has increased	4.4	0.41	41	54	5	-	-
Workers' skills and flexibility has increased	4.6	0.38	45	38	17	-	-
Improve the quality of the product	4.0	0.57	32	59	9	-	-
Increase customer satisfaction	3.5	0.52	10	58	32	-	-
On time delivery reduce overdue orders	4.3	0.37	42	48	10	-	-
Reduce the level of inventory	4.6	0.31	48	35	17	-	-
Reduce lead time	4.1	0.57	43	50	7	-	-
Reduce lot size	3.9	0.53	22	37	32	9	-
Improve production process stability and capability	3.9	0.47	33	32	35	-	-
Reduce defect rate, rework and warranty work	3.6	0.69	25	42	23	10	-
Reduce space for storage and product line	3.8	0.78	21	33	37	9	-
Reduce set up time	4.1	0.56	24	42	27	7	-
Reduce time for new product development	3.4	0.51	18	25	33	24	-
Reduce time for new process launch	3.6	0.51	22	31	42	5	-
Reduce scrape waste	3.5	0.52	21	27	30	22	-
Reduce throughput time	4.3	0.37	19	48	25	8	-
Reduce production and quality control cost	4.4	0.47	28	35	9	-	-
Improve resource utilization	4.3	0.27	17	47	27	9	-
Production flow become more visible	3.7	0.72	10	29	45	16	-

Human Related Issues in Implementing GT

Table 3. Human Related Issues in Implementing GT

Barriers / obstacles	Mean	SD	Never a barrier %	Occasionally a barrier %	Always a barrier %
Workers' resistance to change	1.2	0.31		20	80
Lack of knowledge about GT principles and techniques	1.3	0.14	10	25	65
Lack of training and education in the use of GT technique	1.3	0.11		30	70
Fear of losing job	1.9	0.45	20	30	50
Influence of trade unions	2.6	0.22	60	40	
Communication barriers	2.2	0.45	30	30	40
Lack of involvement from top management	1.4	0.23		30	70
Managers' resistance	2.3	0.31	40	50	10

The major Barriers / obstacles in applying GT are presented in the above table. In the questionnaire respondents were asked to degree the barriers faced by them when applying GT technique. The responses were evaluated based on three point Likert scale (never a barrier (3), occasionally a barrier (2) and always a barrier (1)). The workers' resistance is the most significant barrier when applying GT system (mean = 1.2 and SD = 0.31). Similar results were found in another study conducted by Dixit & Gupta in 2013. According to authors workers' resistance is the prominent barrier for the implementation of GT system in the Indian firm. Lack of knowledge about GT principles and techniques and as well as lack of training and education in the use of GT techniques is also identified as major obstacles in applying GT system.

Hierarchical Multiple Regression Analysis
In order to test the effect of human related barriers on the implementation of GT, multiple regression analysis was performed.

Table 4. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.79[a]	.62	.61	.03157	1.87

According to the model summary table, multiple correlation is 0.79 which indicates that human related issues are having strong joint association with the implementation of GT. Coefficient of determination is 0.62, indicating that 62% of GT implementation has been explained by the multiple regression model. As the value exceeds 60%, it is concluded that the model is well fitted. Durbin-Watson test statistics is 1.87 which falls in between 1.5 – 2.5, signifying the fact that the residuals of the regression model are independent and tend to be appropriate.

Table 5. F- test Statistics

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	57.245	4	13.811	186.9	.000[b]
	Residual	20.035	351	.001		
	Total	87.280	394			

In relation to the regression ANOVA result, probability of F test statistics happened to be highly significant as the P value is 0.00, interpreting that the all independent variables jointly influence on the dependent variable of implementation of GT.

Table 6. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics
		B	Std. Error	Beta			VIF
1	(Constant)	60.46	.070		2.2	.03	1.1
	Workers' resistance	-.58	.107	-.64	-1.4	.00	2.4
	Lack of knowledge	-.51	.075	-.58	-6.4	.00	1.9
	Lack of training	-.46	.068	-.50	-26.8	.01	3.2
	Fear of losing job	-.15	.018	-.21	-12.4	.04	1.4
	Influence of trade unions	-.32	.13	-.39	-.55	.37	4.2
	Communication barriers	-.22	.10	-.28	-.88	.47	3.2
	Lack of involvement from top management	-.39	.26	-.43	-12.4	.00	1.8
	Managers' resistance	-.12	.25	-.51	-16.6	.01	2.4

The results of the multiple regression analysis further verifies the fact that seven out of nine independent variables (except influence of trade unions and communication barriers) have negative influence on the implementation of GT. Worker resistance to change found to be having the greatest impact which is closely followed by lack of knowledge and trading. In addition to that fear of losing jobs, lack of involvement from top management and managers' resistance happened to be significant since all are below 0.05 significant level. In contrast, influence of trade unions and communication barriers are individually insignificant as the P values are higher than 0.05. Hence, these factors are removed from the model. Additionally, all the variance influencing factors (VIF) are less than 10, indicating data set is free from multicollinearity problem and model is appropriate.

4. CONCLUSION

When applying GT, organizations need to provide keen attention on human resource issues such as employee resistance to change, knowledge and training of GT technique, top management involvement to get the fullest benefits of GT. As garment industry is more people involved process, it is critical to obtain the positive commitment of the people in the implementation of GT. The most effective way of obtaining positive contribution from the people through education and training.

Change disrupts the status quo and often leads to stress, discomfort, and for some even dislocation. These conditions motivate people to resist change. Attempts to implement change are more likely to be successful if leaders understand the reasons behind employees' resistance to change. According to Lussier & Achua (2003) the most common reasons why people resist change are; threat to one's self interest, Uncertainty, lack of confidence that change will succeed, lack of conviction that change is necessary, distrust of leadership, threat to personal values, fear of being manipulated. So, it is recommended to minimize employee resistance by applying several techniques such as; effective communication before, during and after the application of GT, effective training and development, empowering employees, employee involvement programmes, establishing supportive reward structure, and as well as upgrading top managers involvement.

Effective communication before, during, and after the change implementation process will prevent misunderstandings, false rumors and conflicts. It is important that those responsible for implementing change not hear about it from second hand sources (Lussier & Achua,2003).

Most organizations will begin the GT conversion with a large pool of employees who are not attuned to group work, and initial training must be geared to convince them of the general effectiveness of group problem solving (Huber & Brown, 1991). Following that, training in group interaction skills may be necessary. Components of this training may include oral communication skills, listening, joint problem solving, and negotiation. According to the point of Schuler and Huber (1990) an organization may need to provide cell members with training in basic skills, interpersonal skills, and conceptual/integrative skills. Interpretation of statistical process control charts, review of documents, and report writing, are likely to make this training essential. Interpersonal and conceptual/intergrative skills also may help employees to solve problems, listen to coworkers, develop intra- and inter-cell coordination mechanisms and interpret data, all of which will enable them to meet the new requirements of the GT work environment. As well as allow time after training for the team members to bond with one another and form team skills.

Reward Structures. Reward structures address the ways in which people are compensated for work. Reward

systems which promote teamwork will be preferred in GT environments, and it will be important for the application of these systems to be consistent throughout the plant. Inconsistencies can create tremendous conflict between interdependent employees or work units. Two major compensation system options likely to promote teamwork in GT environments are gain-sharing and profit sharing.

Strong support from senior management is crucial to ensure that they support the efforts to implement the environment that is desirable for GT rather than undermine it. This requires careful attention on team members' problems, allocate the adequate resources and provide training opportunities for the team members to perform their task effectively and as well as to create the organizational culture where GT can grow and success.

REFERENCES

Anbumalar, V. and Raja Chandra Sekar (2015), *Methods For Solving Cell Formation, Static Layout And Dynamic Layout Cellular Manufacturing System Problems: A Review*, Asian Journal of Science and Technology, 2015

Esmaeilian G. R. and Maryam Hamedi (2012),*A Survey on Development of Virtual Cellular Manufacturing Systems and Related Issues*, Paper presented at the International Conference on Industrial Engineering and Operations Management Istanbul, Turkey 2012

Huber, V.L., and Hyer, N.L., 1985, The Human Factor in Cellular Manufacturing. Journal of Operations Management 5 (2), 213-228

Huber, V. L. and Brown, K. A., 1991, Human resource issues in cellular manufacturing: a sociotechnical analysis. Journal of Operations Management, 10, 138±159.

Hyer, N. L. and Brown, K. A., 1999, The discipline of real cells. Journal of Operations Management, 17(5), 557±574

Kumar A.A.S., Anbumalar, V., Ganesh, N.B., Mayandy, R. (2014). Implementation of Cellular Manufacturing Systems in Garments Industry: A Case study. International Journal of Innovative Research in Science, Engineering and Technology, 3(Special Issue 3), 1298-1292.

Lanarolle, G., and Ratnayake, V. (2014). Cellular Manufacturing and Teamwork Concepts in Garment Manufacturing. Journal of Business and Management, 16 (6), 81-93.

Lussier, R. N., & Achua, C. F. (2004). *Leadership: Theory, application, skill development* (2nd ed.). Sydney: Thompson.

Pullen, R. D., 1976, A survey of cellular manufacturing cells. The Production Engineer, 55, 451±454.

Shambu, G., & Suresh, N. C. (2000). Performance of hybrid cellular manufacturing systems: A computer simulation investigation. European Journal of Operational Research, 120, 436–458.

Singh, N., 1993, Design of cellular manufacturing systems: an invited review. European Journal of Operational Research, 69, 284±291.

Udo, G.J., Ehie, I.C. (1996) "Advanced manufacturing technologies: Determinants of implementation success ", International Journal of Operations & Production Management, Vol. 16 Iss: 12, pp.6 – 26

Wemmerloïv, U. and Hyer, N.L., 1989, Cellular manufacturing in the US industry: a survey of users. International Journal of Production Research, 27, 1511±1530.

Wemmerlov U., Hyer N.L. (1999), *Cellular manufacturing in the U.S. industries: A survey of users*; International Journal of ProductionResearch 27(9); 1511-1530

Wemmerlov U., Johnson D.J. (1997), *Cellular manufacturing at 46 user plants: Implementationexperiences and performance improvements*; International Journal of Production Research 35; 29–49.

Wemmerlo¨v, U., D. J. Johnson. 2000. Empirical findings on manufacturing cell design. International Journal of Production Research 38(3) 481–507

The Relationship Between People-Related Elements of Total Quality Management (TQM) Practices and Employees' Job Satisfaction in Apparel Industry in Gampaha District

D.M.T.D. Dissanayake[1] & K.G.K.S. Wijesingha[2]
[1,2]Department of Business Management
Faculty of Business Studies & Finance
Wayamba University of Sri Lanka
Kuliyapitiya
SRI LANKA
tanyad@wyb.ac.lk[1], ksriwije@gmail.com[2]

Abstract

Apparel manufacturing sector is the largest industrial sector in terms of density of employees. Over the last few decades, the importance of TQM has emphasized as a mean of competitive advantage. Peo in apparel industry. people-related TQM practices (PRTQM) have identified as the most important practices for organizational success. People- related practices mainly involve with soft performance of the organization. Therefore, the focus of the present study is to examine the relationship between people-related elements of Total Quality Management practices and Employees' Job satisfaction in Apparel Industry in Gampaha District, Sri Lanka. In Sri Lanka, the data were collected from 110 employees using convenience sampling technique from Production Managers and Supervisors in selected garment factories in Gampaha district with 94% response rate. The study finds a positive relationship between people- related TQM practices and employees' job satisfaction. Among six independent variables, Top Management Leadership, Employee Empowerment, Employee Involvement, Teamwork and Compensation had the significant relationship with employees' job satisfaction. The results of this study show that Employee Training has no significant relationship with employees' satisfaction. Finally, the study concludes that, only five TQM elements (Top Management Leadership, Employee Empowerment, Employee Involvement, Teamwork and Compensation) could impact on employee satisfaction in the apparel industry.

Keywords: People- related TQM Practices, Job Satisfaction, Apparel industry

1. INTRODUCTION

Organizational workforces perform vital role in executing organizational strategies (Lillly & Maheshwari 2014). Therefore, committed employees in an organization may consider as an asset to that organization in achieving organizational success. Further,

"employee satisfaction" has considered as one of the important determinants of employees‟ commitment level (Ko & Boo 2004, Ofoegbu & Joseph 2013) along with employee attitude and commitment.

According to Lillly & Maheshwari (2014), satisfied employees lead to great performance in any type of organization. Jha & Kumar, 2012 stated that employees‟ negative feelings may lead to behaviors that harmful to the organization while the employee satisfaction influences on important aspects of the organization such as productivity and success. Therefore, it can be seen the consecutive relationship among employee satisfaction, employee commitment, and organizational performance.

Quality thinking in organizations started with inspection then evolved into quality control, which evolved into quality assurance and then to quality management (Hoyle, 2007).In 1979, Crosby has identified 14 steps of quality improvement includes management commitment, quality improvement teams, employee education, and recognition (Samuel, 2011). In 1986, Edward Deming also identified similar 14 points for quality management such as leadership, continuous improvement, on the job training, education and self – improvement, and put everybody to work (Samuel, 2011).

TQM philosophies and concepts emerged as the organizations which are making their every effort to achieve and maintain competitiveness is increasing day by day (Magd & Curry 2003). TQM methods and techniques are concerned to be applicable throughout any type of organization (Magd & Curry 2003). Those techniques are alike useful in organizations engage in manufacturing (Prajogo & cooper 2010), public services (Amin & Ahmad, 2015), education (Bradley, Petrescu & Simmons, 2004), health care, and hospitality industries.

Introduction of TQM methods can adjust and modify organizations‟ work practices and even thinking pattern of mangers (Magd & Curry 2003). There are uncertainties in empirical researches about the TQM techniques and concepts used in organizations in different countries and sectors. According to Yapa (2012) the techniques used by different researchers to assess the level of TQM implementation in different countries are also different.

As TQM proponent stated, ultimate goal of TQM is customer satisfaction (Prajogo & cooper, 2010). According to Matzler K, Fuchs and Schubert, (2004) the employees may be treated as internal customers if the product or service delivery chain seen as a system with interrelated and mutually supportive components. In order to satisfy external customers, it is essential to satisfy the internal customers first hence external customer satisfaction cannot be achieved without internal customer (employee) satisfaction (Prajogo & cooper, 2010).

TQM is a comprehensive quality management philosophy. TQM requires the integration of every person, activity and process within the

organization (Ahire, Golhar & Waller, 1996). Different studies suggest that impact of TQM principles on organizational performance (Kumar, et al., 2009), financial performance, and operational performance (Kuruppuarachchi & Perera, 2010) in the literature (Ahire , Golhar & Waller, 1996; Hakes, 1991; Garvin & David, 1988; Hoang, *et al.,* 2006).

1.1 Research Problem

Sri Lankan economy comprises with three main sectors such as service, agriculture and industry (Department of census and statistics, Sri Lanka). In the industry sector there are mainly three categories such as manufacturing, mining and quarrying, and electricity, gas and water supply (Department of Census and Statistics, Sri Lanka).

In 2014 highest labour productivity (as measured by GDP per hour worked, in 2002 prices) growth of 8.7% has observed in the industry sector (Central Bank of Sri Lanka, 2014). These statics show that even with highest density of employees and with the second highest establishments in manufacturing sector, manufacturing of wearing apparel, dressing and dyeing of fur has recorded less value of input and output

The problems arise on why productivity in manufacturing of wearing apparel, dressing and dying of fur is less than manufacturing of food

product and beverages despite of the second largest number of establishments and highest density of employees.? Here it arises the problem what affects the productivity of employees in this apparel manufacturing and dyeing industry.

According to Matzler, Fuchs & Schubert, (2004) employee satisfaction acts as a driver of productivity and an employee with high level of job satisfaction holds positive attitude towards the job. It has been identified that satisfied employees tend to be more productive than an employee who is dissatisfied (Ofoegbu & Joseph, 2013; Parvin & Kabir, 2011).

According to Parvin & Kabir, (2011) "the level of pay and benefits, the perceived fairness of the promotion system within a company, the quality of the working conditions, leadership and social relationships, and the job itself determines the employee job satisfaction. Other influences on satisfaction such as management style and culture, employee involvement, empowerment, and autonomous workgroups (Amin & Ahmad, 2015; Prajogo & cooper, 2010).

Previous literature proves that, job satisfaction resulting from TQM implementation will lead to a greater commitment in adopting TQM programs and producing intended results, high quality performance (Lam, 1996). Therefore, one of the

roles of the 'soft' TQM factors is to create an environment where the 'hard' TQM can be implemented by empowering and supporting employees to maximize their potential in contributing to the achievement of high quality outcomes of their work (Rahman and Bullock, 2002).

The arguments suggesting a link between people-related TQM practices and job satisfaction have been discussed in the literature with several of them being highlighted below (Ahire *et al.,* 1996; Anderson et al., 1995; Black and Porter, 1996).

Job satisfaction is identified as the main construct which effects on employees' commitment level, which leads to the productivity of the human resource. There is a shortage of adequate empirical findings in the area of TQM, to ensure the impact of PRTQM practices on employees' job satisfaction (Boon, Arumugam, Safa, & Bakar, 2006; Amin & Ahmad, 2015). Therefore, there is an empirical gap in the present study.

So, with the previous literature the problem has been clearly depicted as the PRTQM practices were identified and tested in many contexts and also in the appeal industry. The scope was tested in the Sri Lankan context as well and the findings of Chathurika *et al,* 2016 also proved that there a significant impact of PRTQM practices on job satisfaction. Therefore, there is a research gap

between PRTQM and job satisfaction in the context of appeal industry.

1.2 Research Objectives

General objective of this study is to identify the relationship of the people-related TQM practices on employee job satisfaction in apparel sector in Gampaha District of Sri Lanka. In order to achieve that broader objective following specific sub objectives have being identified;

- To find the relationship between leadership and job satisfaction of the employees.
- To find the relationship between compensation on opportunities for teamwork and job satisfaction of the employees.
- To find the relationship between employee involvement and job satisfaction of the employees.
- To find the relationship between employee empowerment and job satisfaction of the employees.
- To find the relationship between training and job satisfaction of the employees.
- To find the relationship between Teamwork and job satisfaction of the employees.

1.3 Literature Review

Employee job satisfaction

Employee job satisfaction can be defined as "a pleasurable or positive emotional state resulting from the appraisal of one's job experience" (Locke cited in Saiyadain,2003). It is a feeling consists of employee's cognitive, affective and evaluative reactions to their jobs (Saiyadain,

2003). According to the above literature employee satisfaction may simply define as emotional state within employees influenced by and to employees" job experience (Ofoegbu & Joseph , 2013). Maintaining a loyal workforce is a qualification for a successful TQM implementation (Changa *et al,* 2010).

The growing interest on employee satisfaction has led to the studies about antecedence and the consequence in TQM literature (Matzler, Fuchs & Schubert, 2004). Parvin & Kabir , 2011 have studied about the factors like working condition, pay and promotion, job security, relation with co-workers, and relation with supervisors. Khuong & Tien, 2013 have studied supervisor's support, working environment, training, fringe benefit and teamwork as important contributing factors for employees" job satisfaction. Those studies have commonly suggested determinants such as: leadership, training and development, employee participation, reward and recognition, customer focus, empowerment, team work, and communication as management practices recognized in the area of Human Resource Management (HRM) practices (Boon, *et al*, 2006) as determinants of employee satisfaction.

In this study, the discussion of people-related TQM practices is based on an enhanced version of Prajogo and Cooper's (2009) identification of TQM key practices that sustain an organization's business strategy towards job satisfaction. Thus, the six people-related TQM practices selected in relation to employee satisfaction leadership, training, employee empowerment, employee involvement, teamwork, and Compensation.

People-related TQM practices

Several authors categorized TQM elements into two discrete groups, that is, soft TQM and hard TQM (Vouzas and Psyhogios, 2007; Lau and Idris, 2001; Wilkinson *et al*., 1994). Hard TQM refers to the various quality tools and techniques whereas the soft aspects emphasize the management of human resources (Wilkinson *et al*., 1994). In other words, the soft aspects deal mainly with people. Luthans (1995) defined TQM as a participative system whereby all employees are empowered to take responsibility and contribute towards quality management in the organization.

In the pursuit for organizational excellence, TQM captures the quintessence of the people-related practices such as teamwork, employee empowerment and involvement, extensive training, management commitment, as well as reward and recognition to be implemented together with its quality improvement tools and techniques (Yue et al, 2002). Fotopoulos and Psomas (2009) noted that both soft and hard TQM elements have varied impact on the quality management results and they opined that quality improvement is influenced primarily by soft TQM elements and secondarily by hard TQM elements. Brah *et.al*., (2000) found that intangible features such as top management support, teamwork, employee empowerment and employee involvement, play a significant role in ensuring success of

TQM in improving company's performance.

This underscores the importance of analyzing the soft elements, more accurately, the people-related practices of TQM. Morrison and Rahim (1993) and Hoogervorst *et al.* (2005) noted succinctly that effective management of human resources is the core ingredient of success in TQM. This statement is further supported by both Yang (2006) and Jimenez and Costa (2009) whose empirical research revealed that synergy between HRM and TQM practices yielded positive tangible and intangible results

Top management leadership

Leadership is considered as the preliminary step (Prajogo & Cooper,2010) and critical ingredient (Chang, Chiu,& Chen, 2010) before an organization starts with putting TQM in implementation because the right tools and the right systems to do a good job by employees can be supplied only by management (Pekar, 1995).Managers of all layers of the organization must be committed to quality improvement(Pekar, 1995) and that must be visible(Ahire, Golhar, & Waller, 1996). In previous studies the role of top management in providing leadership had received a great deal of attention (Changa *et al,* 2010) and the strong relationship between leadership behavior and employees" job satisfaction has empirically identified (Prajogo & cooper, 2010)

Employee Training

Importance of training is highlighted, unless employees have received formal and systematic training in quality management, other TQM elements such as; employee empowerment and involvement would not be effective (Ahire, Golhar, & Waller, 1996).Training is a valuable source for employee to expand their knowledge and skills to engage team work for the efficient manner (Changa*et al,* 2010). Training can be indifferent forms such as; on the job training or information can be provided to employees about educational programs available in professional institutions (Pekar, 1995).The positive and significant impact of training on employees' job satisfaction has been identified in the literature (Boon,Arumugam, & Hwa, 2005; Prajogo &Cooper, 2010). The growing interest in employee satisfaction has led to the studies about the antecedents and consequences in TQM literature (Matzler,Fuchs, & Schubert, 2004).

The related studies have emphasized the factors contributing to employees' job satisfaction such as; training and development,
leadership, teamwork, pay and promotion, employee participation, employee empowerment as management practices recognized in the area of HRM (Boon, Arumugam, & Hwa, 2005; Parvin & Kabir, 2011; Khuong & Tien, 2013) and TQM lterature (Chang, Chiu, & Chen, 2010; Amin & Ahmad, 2015; Ahire, Golhar, & Waller, 1996). So, based on the literature following variables were

used for the present study to denote the independent variable.

Employee involvement

Employee involvement or participation in quality improvement is central and this requires developing both top-down and bottom-up communication channels, providing a mechanism for employees, give their concerns and suggestions on quality issues and direct participation in the decision making process (Prajogo & Cooper, 2010). Organizations can develop formal systems to encourage, track, and reward employee involvement but, if the extent and quality of participation declines, it may lead to dissatisfaction of the workforce (Ahire, Golhar, & Waller, 1996)

Employee Empowerment

TQM proponents and scholars have been made that the empowerment as one of the key elements of TQM and without it continuous improvement will become impossible (Prajogo & Cooper, 2010). One of the key elements of TQM is employee empowerment involves encouraging employees to respond to quality related problems and it also requires supply them with the resources and authority to do so (Prajogo & Cooper, 2010). In previous studies it has been empirically supported the strong positive relationship between empowerment and job satisfaction (Prajogo & Cooper, 2010).

Teamwork

Teamwork takes place in various forms such as; quality control circles (QCC) and quality improvement teams (Prajogo & Cooper,2010). Working as a team leads to better employee attitude and supportive relationship between members facilitates the work (Alsughayir, 2014). Because working as a team leads to better employee attitudes and a supportive relationship between members facilitate the work (Alsughayir, 2014). Team achievements of established goals should be recognized (Pekar P & Jach, 1995).

2. METHODS

In this study conceptual framework designed to find out impact of people related elements of TQM on employees' job satisfaction.

2.1 Conceptual Framework

Conceptual framework has been developed by using theoretical perspectives and literature those has being mentioned previously.
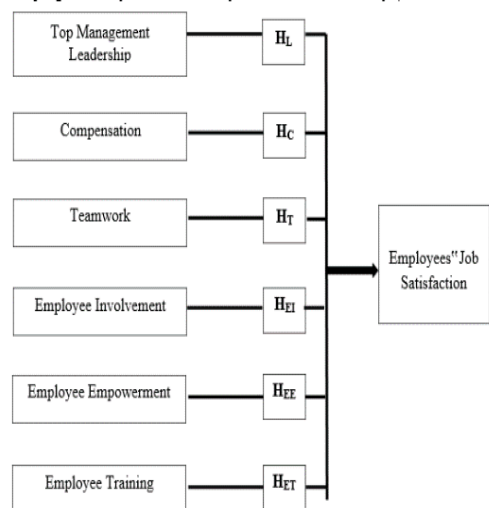

Figure 1. Conceptual Framework

As per the model there are 6 independent variables (Top Management Leadership, Employee Empowerment, Employee Involvement, Teamwork and Compensation, Training) to measure the relationship with dependent variable (Employee Job satisfaction). Accordingly, 6 hypotheses were developed in order to measure the relationships.

There's a significant relationship between leadership and job satisfaction of the employees.

There's a significant relationship between compensation on opportunities for teamwork and job satisfaction of the employees.

There's a significant relationship between employee involvement and job satisfaction of the employees.

There's a significant relationship between employee empowerment and job satisfaction of the employees.

There's a significant relationship between training and job satisfaction of the employees.

There's a significant relationship between Teamwork and job satisfaction of the employees.

In this study, primary data were collected by using structured questionnaire. Population of this study were Production Managers and Supervisors in Apparel Industry in Gampaha district and sample include one hundred and ten number of employees which has been carefully chosen from the selected apparel factories in Gampaha district. The study used Reliability test to check internal consistency of the component and validity test to check validity of the study and descriptive analysis such as mean, standard deviation, percentage and frequency and correlation analysis was carried out to examine the relationship between the dependent variable

3. RESULTS

All variables were measured with questions adapted from existing scales. All items were measured on a five-point Likert-type scale where 1 = strongly disagree and 5 = strongly agree.

In this study majority (71.84%) of respondent were male. Majorities (54.4%) of respondent were in 26-35 age category, 94% employees were work as permanent employees, 47.6% of respondents had 1-3 years of experience in current job position, 45.6% had experience in current field of 1-3 years and 45.5% had 1-3 years of experience in current company.

Normality Test

Kaiser-Meyer-Olkin (KMO) test is a measure of how suited the data is for factor analysis. The test measures sampling adequacy for each variable in the model and for the complete model. The lower the proportion, the more suited the data is to factor analysis. KMO returns values between 0 and 1. KMO value more than 0.5 generally indicates that factor analysis is useful.

Table 1. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling		.789
Bartlett's Test of Sphericity	Approx. Chi-~	207.753
	Df	21
	Sig.	.000

Source: Survey Data

This table shows KMO value of 0.789 for the complete model of this study. This indicates that factor analysis is useful with the data collected.

Reliability Analysis

As Table 3.1 illustrates, all six TQM variables and job satisfaction are measured by their corresponding items. The alpha coefficient for all six TQM elements is approximately greater than 0.7. These results suggest that items of variables have relatively high internal consistency.

Table 2. Cronbach's alpha coefficient

Variable	Alpha value	Number of items
Leadership	0.815	11
Employee training	0.730	5
Employee empowerment	0.703	2
Employee involvement	0.719	4
Teamwork	0.740	2
Compensation	0.741	3
Job satisfaction	0.757	5

Source: Survey Data

Correlation Analysis

Table 3. Correlation between dependent and independent variables

Correlations		Job Satisfaction	Leadership	Employee training	Employee empowerment	Employee involvement	Teamwork	Compensation
Job satisfaction	Pearson Correlation	1	.481	.073	.233	.296	.596	.596
	Sig. (2-tailed)		.000	.464	.018	.002	.000	.000
	N	103	103	103	103	103	103	103
*. Correlation is significant at the 0.05 level (2-tailed).								

Source: Survey data

According to the results obtained from the correlation analysis here researcher has found that all independent variables are significant at 0.01 levels. But According to the data, only five independent variables, Leadership, Employee empowerment, Employee involvement, Teamwork & Compensation has P – values less than 0.05. And out of those 05 variables Teamwork and Compensation had the highest Correlation values respectively.

33

If P value of independent variable is lower than 0.05 then null hypotheses should be rejected and alternative hypothesis should be accepted. Accordingly, P value of Top Management Leadership, Employee Training, Employee Empowerment, Employee Involvement, Teamwork and Compensation are 0.000, 0.464, 0.018, 0.002, 0.000 and 0.000 respectively. Alternative hypothesis of 05 variables other than Employee Training is accepted.

If Pearson coefficient of correlation is close to 1(>0.5) there is low positive correlation between independent &dependent variable. Accordingly, there is low positive correlation between Top Management Leadership and Employee' Job Satisfaction as 0.481. There is low positive correlation between Employee Empowerment and Employees' Job Satisfaction as 0.233. There is low positive relationship between Employee Involvement and Employees' Job Satisfaction as 0.296. There is high positive relationship between Teamwork and Employees' Job Satisfaction as 0.596. There is High positive relationship between Compensation and Employees' Job Satisfaction as 0.543.

Hypothesis Testing

Correlation analysis is a statistical technique which can use to show the relationship between variables. Most common methods that can use for measuring the correlation are Perarson & Product-moment correlation. This study has mainly used Pesrson correlation for analyze the data and hypotheses.

The Pearson correlation value for top management leadership and Employee job satisfaction is 0.481 and it has a moderate positive relationship. Hence the significance value is less than 0.05 (.000<0.05). H1 is accepted. The Pearson correlation value for employee training and Employee job satisfaction is 0. 73 The significance value is greater than 0.05(.464>0.05). therefore, H2 rejected an it says there's no significant relationship between employee training and Employee job satisfaction. Employee empowerment and Employee job satisfaction has a moderate positive relationship(β=.233) and H3 can be accepted because of the significance value is less than the alpha value.

The Pearson correlation value for employee involvement is 0.296. It has a moderate positive relationship. The alpha value is less than the significance value (.002>0.05). So, H4 is accepted. Teamwork and Employee job satisfaction has a moderate positive relationship(β=.596) and H5 can be accepted because of the significance value is less than the alpha value (.000>0.05). The Peasorn correlation value for compensation is 0.596. It has a moderate positive relationship. The alpha value is less

than the significance value (.000>0.05). So, H6 is accepted.

4. DISCUSSION

This present study was investigated the Relationship between People-Related elements of Total Quality Management (TQM) Practices and Employees" Job Satisfaction in Apparel Manufacturing Industry in Gampaha District. The finding of the present study will be important as it help to solve current Employees" Job Satisfaction problem. Similar studies have been conducted in Australia (Prajogo & Cooper, 2010),Pakistan (Amin & Ahmad, 2015), Saudi Arabia (Alsughayir, 2014), and India (Jha &Kumar, 2012).

Based on the reliability analysis all the independent variables are reliable and the Cronbach alfa value for all the independent variable are greater than 0.7. as it shows a higher internal consistency of the variables.

The general objective of this study is to examine the impact of the PRTQM practices on employees' Job Satisfaction. The study considered the impact of quality of the Leadership, employee Training, employee Empowerment, employee Involvement, and Teamwork on the Job Satisfaction as similarto two other previous studies done by Prajogo & Cooper (2010) and Amin & Ahmad, (2015).

By applying correlation technique all relationships were found significant except Employee Training. There is strong relationship between Teamwork and Compensation with Employees' Job Satisfaction. Leadership, Employee Empowerment and Employee Involvement relationship have less influence on Employees' Job Satisfaction. Accordingly, Teamwork is the important independent variable among them.

In achieving the objective of measure the strength and significance of the relationship between each PRTQM practice and Job Satisfaction, it was apparent that findings were different from previous studies. The results show significant positive relationships of Leadership, employee, employee Involvement, employee Empowerment, and Teamwork, compensation with the Job Satisfaction. This indicates that the Job Satisfaction is a result of collective practices of PRTQM and when the PRTQM practices are in higher level the Job Satisfaction of the employee will also be high. This finding is supported by the findings of Prajogo &Cooper (2010). Findings of Alsughayir (2014) also confirmed the strong positive relationship between working as a team (Teamwork) and the Job Satisfaction.

There were some inconsistencies of the findings with the previous literature. The insignificance of the relationship between (compensation) and Job Satisfaction is found by Amin and Ahmad (2015). The findings of the Prajogo &Cooper (2010) showed that there as positive relationship between training and job satisfaction but the present study found that there's a negative relationship between training and job satisfaction.

5. CONCLUSION

The present study was conducted to find the relationship between people related TQM practices and job satisfaction. In apparel manufacturing organizations" the productivity depends on the performance of employees. Therefore, satisfied employee performance is a must to maintain organizational success.

Since it is implicated that Top Management Leadership, Employee Empowerment, Employee Involvement, Teamwork and Compensation has significant impact on satisfaction. Out of these 05 People-Related elements of TQM practices, Teamwork, Compensation and Top management Leadership has the highest impact when comparing with others.

Teamwork has the highest impact (35.5%) on Employees" Job satisfaction. So, the implementation of quality improvement teams, cross-functional teams and etc. will help

organization to increase the employees" job satisfaction. Some techniques such as lean manufacturing also can use to increase the employees" job satisfaction.

Compensation has the second highest impact (29.5%) on Employees" Job Satisfaction. Quality based evaluation increase compensation and other rewards will increase the employees" job satisfaction.

Top Managers Leadership have 23.1% impact on Employees" Job Satisfaction. So Top Managers have a critical role in determining employee satisfaction.

Leadership dimensions and employee involvement dimensions such as; clarity of the quality goals, relative importance given to quality as a strategic issue, relative importance given to quality versus cost, relative importance given to quality versus production schedule, allocation of resources to quality improvement efforts, performance evaluation of managers based on quality, encouragement for employees to give suggestions, employee suggestion implementation are recommended to enhance within those organization setting.

There are several limitations of this study. First, it may lack generalizability, due to the sampling technique. The population considered in the study is only the organizations in Gampaha district only. It does not

necessarily reflect the perception and level of satisfaction of employees in the Apparel manufacturing organizations outside the Gampaha District. Limited availability of previous studies, literature, and figures was another constraint, especially in Sri Lankan context. Therefore, this research is limited to less background knowledge in the area of study. Further research could be conducted considering some other PRTQM practices which are identified in the literature but not considered in this study to examine those relationships with the employees' Job Satisfaction. In addition, it is important to extend the focus on other provinces in Sri Lanka and other industries to generalize the findings.

And there are more factors that is cased to employee job satisfaction within an organization. But here only selected Top Management Leadership, Employee Training, Employee Empowerment, Employee Involvement, Teamwork and Compensation to examine the problem. The failure of TQM programs is attributed to lack of consideration to soft side of TQM by implementing organizations and emphasized teamwork, employee involvement and top management commitment as highly essential to success of TQM strategy (Prajogo and Cooper, 2017).

All TQM practices have not been worked same for all organization.

Therefore, it is important for HR manager to find out what works for their organization. Present study found that Top Management Leadership, Employee Empowerment, Employee Involvement, Teamwork and Compensation were strong TQM practice predictors of Employees' Job Satisfaction. The implication of this finding is that those above-mentioned variables are the most critical TQM practices to be implemented by Apparel manufacturing companies to increase Employees' Job Satisfaction.

Since it is implicated that employee involvement and leadership have a significant influence on satisfaction, top managers have a critical role in determining employee satisfaction. Leadership dimensions and employee involvement dimensions such as; clarity of the quality goals, importance given to quality as a strategic issue, allocation of resources to quality improvement efforts, performance evaluation of managers based on quality, encouragement for employees to give suggestions and implementation of them, and framework for evaluating the quality of participation are recommended to enhance within those organization settings.

All TQM practices have not been worked same for all organization. Therefore, it is important for HR manager to find out what works for their organization. Present study found that Top Management Leadership, Employee Empowerment, Employee Involvement, Teamwork and Compensation were strong TQM practice predictors of Employees" Job Satisfaction. The implication of this finding is that those above-mentioned variables are the most critical TQM practices to be implemented by Apparel manufacturing companies to increase Employees" Job Satisfaction. Therefore, the recommendations may valid to the apparel industry in Gampaha district.

REFERENCE

Ahire, S., Golhar, D., & Waller,A. (1996). Development and Validation of TQM Implementation Constructs. Decision Sciences, 27(1), 23-56)

Alsughayir, A. (2014). Does Practicing Total Quality Management Affect Employee Job Satisfaction in Saudi Arabian Organisations? European Jounral of Business and Management, 6 (3), 169-174.

Amin, H., & Ahmad, B. (2015). The Impact of Soft Total Quality Management Practices on Employees' Job Satisfaction. (pp. 1-20). Riga, Lativia: Riga: University of Latvia.

Boon, K., Arumugam, V., & Hwa, T. (2005). Does Soft TQM Predict Employees' Attitudes? The TQM Magazine, 17 (3), 279-289.

Boon, O., Arumugam, V., Safa, M., & Bakar, A. (2007). HRM and TQM: Association with Job Involvement. Personnel Review, 36(6), 939-962.

Chang, C, Chiu, C, and Chen, A. (2010). The Effect of TQM Practices on Employee Satisfaction & Loyalty in Government total quality Management & Business Excellence, 21(12), 1299-1314.

Department of Census and Statistics, SriLanka. (2015). Annual Survey of Industries-Final Report-2013.Retrieved November 11, 2015, fromDepartment of Census and Statistics-Sri Lanka: http://www.statistics.gov.lk/

Garvin, David A. (1988), Managing Quality: The Strategic and Competitive Edge, New York: The Free Press.

Hakes, C. (1996) The Corporate Self-Assessment Handbook. 3rd edn. London: Chapman and Hall.

Hoang, D. Igel, B., and Laosirihongthnog, T. (2006). The impact of total quality management on innovation: Findings from a developing country. International Journal of Quality & Reliability Management, v. 23, n. 9, p. 1092 1117.

Herzberg F , Mausner B,Peterson R and Capwell D (1957). Job Attitudes: Review of Research and opinion. Psychological service of pittsburgh.

Hoang D, Igel B. (2006). The impact of TQM on innovation. International Journal of Quality and Reliability Management, 1092-1117.

Jha U C and Kumar S. (2012). Effect of TQM on employee satisfaction. Radix International Journal of research in social sciences, 151-221.

Khuong M, and Tien B (2013). Factors influencing employee loyalty directly and indirectly. International Journal of current research and academic review, 81-95.

Kodali M. (2008). TQM implementation element for manufacturing excellence. TQM journal 20, 559-621.

Kuruppuarachchi, D., and Perera, H. (2010). Impact of TQM and technology on operational Performance. The IUP Journal of Operation Management, 9 (3), 23-41.

Lillly J and Maheshwari M. (2014). A study on employee satisfaction towards TQM practices. International Journal of Scientific research, 116-118.

Magd, H., and Curry, A. (2003). ISO 9000 and TQM: Are They Complementary or Contradictory to Each Other? The TQM Magazine, 15(4), 244-256.

Matzler, K., Fuchs, M., & Schubert, A. (2004). Employee Satisfaction: Does Kano's Model Apply? Total Quality Management & Business Excellence, 15(9-10), 1179-1198.

Ofoegbu, O., & Joseph, A. (2013, April). Determinants of Employees Performance in Workplace: A Case Study of Bond Chemical in Oyo State. International Journal of Business and Behavioral Sciences, 3 (4), 218-250.

Pekar, Parvin, M., & Kabir, M.. (2011, December). Factors Affecting Employees Job Satisfaction of Pharmaceutical Sector. Australian Journal of Business and Management Research, 1 (9), 113-123. J. P. (1995). Total Quality Management: Guiding Principles for Application. Philadelphia: ASTM.

Prajogo, D. and Cooper, B. (2017). The individual and organizational level effects of TQM practices on job satisfaction. International Journal of Manpower, 38(2), 215-225